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CHEMISTRY CONFERENCE SUPPORTS BUTLEROV'S STRUCTURAL THEORY

More than 400 chemists, physicists, and philosophers representing the Academy of Sciences USSR, academies of sciences of individual republics, scientific research institutes, and higher educational institutions participated in the conference held under the auspices of the Department of Chemical Sciences, Academy of Sciences USSR. The following resolution was passed by the conference:

The interest evinced by the participants showed that the questions discussed at the conference were timely. In view of the fact that insufficient attention had been paid by chemists and physicists to the fight for a dialectical materialistic outlook, some Soviet chemists became victims of the harmful and idealistic resonance theory. The participants at the conference subjected to devastating criticism the errors made by USSR scientists who used in their work the harmful concepts of the so-called resonance theory.

Under the Stalin Five-Year Plans, great progress has been made in organic chemical research and in applying industrially the results of this research. However, undesirable tendencies developed at the same time: A. M. Butlerov's structural theory was disregarded, corrupted, and replaced by the Anglo-American theory of resonance (L. Pauling) or mesomerism (Ingold) which, in postulating a multiplicity of molecular structures, is directly opposed to Butlerov's theory.

Ya. K. Syrkin, Corresponding Member, Academy of Sciences USSR, M. Ye. Dyatkina, M. V. Vol'kenshteyn, and A. I. Kipriyanov were among the Soviet scientists who unfortunately became adherents and followers of this theory. The spread of this so-called theory did harm to USSR chemists in deflecting the efforts of chemists towards the creation of useless pseudo-scientific constructions. These purely speculative constructions created the illusion of explaining facts and relationships but actually did not explain anything. The impression arose that everything had been already explained and done, with the result that the development of structural theory stopped.

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The conference takes note of the fact that the scientists mentioned above now recognize the harmful and futile character of the resonance theory. However, it also notes that Syrkin, Dyatkina, Vol'kenshteyn, and Kipriyanov did not subject this theory to detailed criticism during the discussion and did not present an extended analysis of their own methodological and ideological errors. The conference regards as unsatisfactory declarations made by Syrkin and Vol'kenshteyn to the effect that they were not familiar with Butlerov's work.

One of the causes which contributed to the spread of the harmful resonance theory in the USSR was the uncritical attitude of chemists, who did not pay sufficient attention to ideological questions. Soviet philosophers, on the other hand, did not pay much attention to theoretical chemistry, which explains the fact that the essential idealism of the concept of resonance was first exposed by chemists.

While the conference on the whole approves the report made by the Commission of the Department of Chemical Sciences, Academy of Sciences USSR, it notes a number of serious drawbacks in that report. The report did not bring out strongly enough that ideological distortions in chemical theory are closely connected with inimical theories in the fields of biology and physiology, thus forming a single front in the fight of reactionary bourgeois ideology against materialism. Furthermore, the achievements of Soviet organic chemistry were not sufficiently emphasized; the kinetics of chemical processes and the effect of the reaction medium as well as the role of radicals and rearrangements were neglected; the influence of atoms on each other in the molecule was not sufficiently emphasized.

The conference considers it necessary to stress the importance of the synthetic trend in organic chemistry. It is in synthesis that theory approaches practical applications most closely. For that reason, the theory of structure ought to receive its strongest stimulus from organic synthesis.

The conference considers it abnormal that most theoretical physicists have turned their back to chemical theory. Physical methods should be applied more extensively in chemistry, and wider cooperation of physicists and physical chemists enlisted with that end in view. It is particularly important that Soviet theoretical physicists and mathematicians take an active part in the treatment of problems of theoretical chemistry and the application of quantum-mechanical methods in this field. Only in this manner can the quantitative theory of structure envisaged by Butlerov be created.

Greater attention should be paid to the publication of monographs in theoretical chemistry. Butlerov's and V. V. Markovnikov's completed works should be published. Discussions on problems of structural theory should be published in Zhurnal Obshchey Khimii, and the volume of this journal increased accordingly. In connection with efforts to be made by the Department of Chemical Sciences, Academy of Sciences USSR, and scientific and higher educational institutions with the view of combating the spread of harmful idealistic theories, new textbooks of organic chemistry should be published in addition to taking the steps outlined above.

The conference urges all chemists, as well as scientists working in related fields, to assist in further development of Butlerov's structural theory on the basis of dialectical materialism and I. V. Stalin's great work.

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